Hewlett Packard
19420 Homestead Road, Cupertino CA 95014

Certified for HP-UX

Madge Token Ring/Fast Ethernet Switch/Bridge Certification Acceptance Report

Date: May 14, 2004

Congratulations! The product you have submitted to HP has successfully met the compliance criteria and has been accepted. Your product is now officially "Certified for HP-UX"! Below, you will find specific details concerning all of the tests performed.

Vendor and Product Description

Vendor: Madge Networks

Products:

1. **Smart DeskStream Token Ring Switch/Bridge**
   DeskStream : 58-30
   Ethernet Module : 58-39
   Stacking Module : 58-37

2. **Smart Ringswitch Express Switch/Bridge**

   Ringswitch Express: 58-50
   Ringswitch Ethernet Module : 58-44
   Copper Port Token Ring Module: 58-24

Hewlett Packard
19420 Homestead Road, Cupertino CA 95014

Software: Madge TrueView Windows software

Description: Token Ring to Ethernet Switch/Bridge

Vendor Supported Hardware Platforms

- HP 9000 rp8400 Server
- HP 9000 rp7400 Server
- HP 9000 rp2450 Server
- HP Integrity rx2600 Server
- HP Integrity rx5670 Server

Vendor Supported Operating System Environments:

- HP-UX 11i v1
- HP-UX 11i v2

Hewlett Packard
19420 Homestead Road, Cupertino CA 95014

HP 9000 and HP Integrity System Compliance Requirements

The product successfully meets the compliance criteria for HP-UX 9000 Systems as defined by Hewlett Packard. The following section outlines the product testing requirements:

Section 1.0 - Platform Testing: Testing the product on each of the specified hardware platforms.

Section 2.0 - Operating Environment Testing: Testing the product on each of the specified operating system environments.

Section 3.0 - Documentation Compliance Verification: Verifying the product documentation's correctness and completeness.

Section 4.0 – Switch/Bridge Configuration Testing: Verifying that the Switch/Bridge can be configured properly.

Section 5.0 – Switch/Bridge Interoperability Testing: Verification that the Switch/Bridge works with different types of HP Token Ring and HP Ethernet cards, different types of Token Ring switches and Ethernet Switches, and also with IBM Mainframe systems.

Section 6.0 - HP-UX Command Functional Testing: Verifying product command testing as defined by Hewlett-Packard testing certification documentation.

Section 7.0 – Stress, Performance, and Reliability Testing: Verifying the product does not fail under heavy Network traffic.

Section 8.0 - Switch/Bridge Recovery Testing: Verifying the recovery ability of the Switch/Bridge in the event of power failures and cable disconnects.

1.0 Platform Testing

The product submitted was successfully tested for certification compliance on each of the following platforms:

- **HP 9000 rp8400**
  - Firmware 42.28 (PDC ver16.009)
  - Using HP-UX 11i v1
- **HP 9000 rp7400**
  - Firmware 42.28 (PDC ver16.009)

- Using HP-UX 11i v1

- **HP 9000 rp2450**
  - Firmware 42.28 (PDC ver16.009)
  - Using HP-UX 11i v1

- **HP Integrity rx2600**
  - Firmware 03.11 (BMC version: v01.30)
  - Using HP-UX 11i v2

- **HP Integrity rx5670**
  - Firmware 03.11 (BMC version: v01.30)
  - Using HP-UX 11i v2

2.0 Operating Environments Testing

The product submitted was successfully tested for certification compliance with the following platforms:

- HP-UX 11i v1
  - Hardware Enablement Patches, December 2003, B.11.11.0312.4
  - BUNDLE11i, Required Patch Bundle for HP-UX 11i, June 2003, B.11.11.0306.1
  - HP-UX ANSI C Compiler, B.11.11.08
  - Perl 5.6.1.F
  - TokenRing-00, PCI Token Ring;Supptd HW=A5783A/A4930A;SW=J1644AA ,B.11.11.02

- HP-UX 11i v2
  - HP-UX ANSI C Compiler, C.05.50
  - Perl D.5.8.0.A
  - TokenRing-00, PCI Token Ring;Supptd HW=A5783A;SW=J1644AA, B.11.23.00

Comments and Observations:
Perl and HP Ethernet driver comes along with the HP-UX Operating systems itself. Remaining software was installed using swinstall command.

3.0 Documentation Compliance

The product successfully meets the compliance criteria for the Documentation Requirements as defined by Hewlett Packard. Specific installation instructions were available, specifying when user intervention is required for installation to an appropriately configured and localized HP-UX platform(s).

Comments and Observations:
The document provided along with the product explains in detail about the product, installation of the switch modules, and product's usage.

4.0 Switch/Bridge Configuration Testing

The product successfully meets the compliance criteria for Configuration as defined by Hewlett Packard. Configuration Testing was performed by configuring the Switch/Bridge with the following set ups.

- Different MTUs.
- Different modes (Half/Full duplex mode, Auto sense mode)
- Different speeds.
- SNMP MIBII Support
- Source routing.

Comments and Observations:
Configuration was performed using the Vendor provided software TrueView, which runs on Windows operating system by connecting the Switch/Bridge to windows system through either Ethernet port or Token Ring port.

5.0 Switch/Bridge Interoperability Testing

The product successfully meets the compliance criteria for Interoperability as defined by Hewlett Packard. Interoperability testing was performed with different types of HP Token Ring cards, HP Ethernet cards, cable connectors, Token Ring switches, Ethernet switches and IBM Mainframe.

Comments and Observations:
Interoperability testing was performed on Switch/Bridge with the following products

- HP Token Ring cards: HP NIO TR and HP PCI TR
- HP Ethernet cards: BTlan and Igelan,

- Cable connectors: DB-9 and RT-45 Connectors
- Token Ring Switches: Olicom Token ring switch.
- Ethernet Switches: HP Procurve Switch.
- IBM Mainframe.

6.0 HP-UX Command Functionality Testing

The product successfully meets the compliance criteria for HP-UX command Functionality as defined by Hewlett Packard. These tests validate that the HP-UX system performs the network traffic properly and that the product is installed and functioning. To check the functionality of the Switch/Bridge the following operations were done using standard HP-UX commands.

- Checking the link level connectivity.
- Changing the Network speed.
- Changing MTU size.
- Multicasting,
- Promiscuous mode
- Locally administrated MAC addresses.

Comments and Observations:
MAC address was converted to Non-canonical format to check the link connectivity from Token Ring to Ethernet.

7.0 Stress, Performance, and Reliability Testing

The product successfully meets the compliance criteria for Stress, Performance and Reliability testing as defined by Hewlett Packard. Tests include running for an extended period of time while under load provided by test tools. The product must meet standard performance expectations for the product type and must not fail or cause conflict with other software or the operating system during these tests.

Comments and Observations:
Stress and load testing was performed using a HP tool, which stresses the capability of the Switch/Bridge with series of Socket and NFS level traffic tests.

Performance and Reliability testing was performed with another HP tool, which runs the UDP_RR, TCP_RR, TCP_STREAM, and UDP_STREAM tests.

This Switch/Bridge has also been stressed with traffic on all ports with maximum speed and MTU values.

8.0 Switch/Bridge Recovery Testing

The product successfully meets the compliance criteria for Switch/Bridge Recovery testing as defined by Hewlett Packard.

Tests include:

- Cable Disconnect
    - Disconnect cable for 10 seconds.
- Abrupt power loss of Switch/Bridge
    - Test recoverability of Switch/Bridge in power loss scenario.

Comments and Observations:
No comments or issues to report.

Testing Configuration Summary

Testing was setup with each HP 9000 and HP Integrity system configured with the latest firmware and a standard OS installation. Testing configuration details of systems and NICs are outlined in the ***HP Hardware Provider Network (Token Ring/Ethernet) Switch/Bridge Certification Test Plan***. Please see section 1.0 of this document for Platforms tested.

NOTE: HP does not endorse or is any way liable for support of any peripherals that may be connected to this Switch/Bridge even if they have been used/referenced in the test configuration.

Hewlett Packard
19420 Homestead Road, Cupertino CA 95014